



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

DEPARTMENT OF GEOGRAPHY.

NORTH AMERICAN FISHERIES.*

The great fisheries of Newfoundland, Canso and parts of the Gulf of St. Lawrence were discovered by Sebastian Cabot, the earliest voyageur to the northern coasts of America, in the reign of Henry VII., 1497. The reports of Cabot were soon spread throughout Europe, and fishing vessels from different nations began to resort to the Banks of Newfoundland for annual supplies of fish. In the reign of Queen Elizabeth of England, Sir Humphry Gilbert took position of and claimed sovereignty over Newfoundland, whose few and scattered immigrants acknowledged his right.

The French had long disputed the British claim to the fishery of Canso, a narrow strait between Nova Scotia and the Island of Cape Breton, until 1749, when the English conquered the island, and captured Louisburg, the stronghold of France in America.

From this period British subjects occupied the banks and shoals skirting the coasts of Nova Scotia; but the Banks of Newfoundland were common to all nations. The territory of Labrador was also claimed by France; but after the conquest of Canada, the whole country was ceded to England, excepting two small islands, St. Pierre's and Miquelon on the south side of Newfoundland. Subsequently England ceded to France the exclusive right to fish from Cape Ray to Cape St. John.

After the United States had gained their independence, and the peace of 1783 was concluded, the treaty between the two countries stipulated the right of the Americans "to take fish on the Grand Bank and all other banks of Newfoundland, in the Gulf of St. Lawrence and all other places in the sea, where the inhabitants of both countries had been used before, and the liberty to fish on such parts of the coast of Newfoundland as British fishermen used, (but not to dry, or cure fish thereon,)

and on the coasts, bays and creeks of all other British dominions in America."

The war of 1812 abrogated all former treaties. The Convention of 1818 secured to the United States the right to fish all along the coasts and harbors of British North America; but not within three marine miles of the shore, and to cure fish in such bays and harbors as were not inhabited, and also to enter any bay or harbor for shelter, to repair damages, or to obtain provisions, or water.

The treaties between Great Britain and the United States were as difficult to defend as they were to observe. The framers of those treaties were unacquainted with the practical working of their schemes; hence frequent misunderstandings arose between the two countries, even threatening war. The American fisherman was not conversant with nice logical distinctions. He knew of no game laws regarding the fishes of the sea. Indeed, the ocean was considered to be the high way of all nations, and that nature offered her bounties freely to all and recognized no national boundaries.

Notwithstanding the decrees of the Convention of 1818, vessels from the eastern States would visit the remote harbors of the colonies and barter for codfish, and an illicit trade was carried on which called forth the interference of the local authorities of the British provinces, and an armed force for the protection of the fisheries. Sometimes American vessels were seized within the limits of three miles from the shore, and condemned, and their owners ruined. National ships of war were also sent to cruise along the coasts—to defend the fisheries on one side, and to protect the fishermen on the other.

This state of things continued until the years 1850 and 1851, when the principal northern coasts and islands were visited by Admiral, the Earl of Dundonald, late Commander-in-Chief on the British North American and West Indian Stations. I had the honor to accompany his lordship during the examinations of the fisheries; and also in extensive geological explorations of the shores; and I believe that it

* A paper read before the American Geographical and Statistical Society, by Abraham Gesner, M. D., F.G.S., etc., January 6, 1859.

has been through his influence and comprehensive views that a treaty of reciprocity has recently been sanctioned, whereby the American fisherman has been relieved from his former embarrassments. He is now permitted to fish where he pleases, except in the rivers, and a free trade is open between the United States and the colonies.

In my history of the Province of New Brunswick I advocated a close adherence to the then existing treaties, but a laborious inspection of the fisheries, and a better acquaintance with the persons engaged in them, have led me to abandon my former views and advocate a more practical and generous policy.

There are obstacles to the study of the natural history of fishes that cannot be overcome. The haunts and habits of those that inhabit the deep sea cannot be seen; and it is only by examining the contents of their stomachs that we can learn any thing regarding the nature of their food. Many kinds cannot be taken either by hook, or net; others are rarely seen, and doubtless some inhabit depths almost unfathomable.

It has long been believed, and the error still continues, that deep sea fisheries, like those of bays and rivers whose shores are inhabited, are constantly on the decline, from the myriads of fish annually captured. This error has been the foundation of national disputes, and especially as regards the Grand Bank of Newfoundland.

It is certain that the shore fisheries of inhabited districts decline; and some have so far fallen off that they are not worth pursuing. But this fact has arisen as one of the effects of civilization. Damming the streams for the erection of saw mills, which prevent the fish from ascendancy in the spawning season—the saw dust of the mills; the passage of steamboats and other vessels; the poisonous matter poured into the water from cities, towns and villages, and other causes destroy the fisheries of estuaries and rivers far more rapidly than the hook, net, or seine of the fisherman. Now

none of these causes act upon the living mantle of the ocean's bed. The cod, halibut, lake, cusk and other fishes that live at fifty and a hundred fathoms beneath the surface of the sea, and many miles from the dry land, are beyond the reach of such influences, and the vast numbers captured are annually restored by their miraculous powers of reproduction. I have estimated the numbers of *ova* found in each of the following fishes as follows: Codfish, 62,000; herring, 52,000; mackerel, 72,000. So far as history and statistics inform us the fisheries of the Banks of Newfoundland, and other shoals along the northern arm of this continent, have not fallen off during the last 200 years. It is a wise provision of the Creator that the great victualling office of the world shall be well supplied. Even the playful mackarel and herring, which pay yearly visits to the shores, maintain their numbers against fleets of fishermen; the latter in his season covering thousands of miles of coast with *ova*.

The food upon which fishes subsist forms an interesting inquiry. I cannot stop here to discuss this part of my subject, further than to remark that multitudes of fishes die every year. Yet in sailing over the surface of the ocean a dead fish is seldom seen, except in the vicinity of some submarine volcano, or sulphurous, or hot spring. The weak and dead are devoured by flesheating fishes, who, in their turn, become the prey of their successors. Portions of the bottom of the shallowest parts of the ocean, if not the deepest abysses, are covered with vast tracts of sea weeds of great growth. These plateaus and submarine pastures afford food for some kinds of the finny tribes. Other parts abound in shell fish, crustacea, &c. These sustain other broods. Great numbers of fishes are fed by the waters of the sea, and the sediment poured into it by every shower that washes the dry land. Each of this class is a living chemical laboratory, assimilating the oxygen and hydrogen of the water, and the carbon and nitrogen of its impurities, to the formation of bone, blood, flesh, and scales. Floating fields of sea weeds abound in small

fishes, and the dolphin glides from wave to wave in quest of the floating nautilus or sunfish. The entire surface of the ocean teems with life—and, like the stormy petrel, some kinds of fishes are provided with strainers in their mouths by which they separate the animalcula from the watery element. The gay butterfly, moth, and many land insects supply food for salmon, trout, and other inhabitants of lakes and rivers. A closer examination, than the one I have thus hinted at, will convince any student in Natural History that nature has provided abundantly for all the inhabitants of the mighty deep.

DIFFERENCE BETWEEN NORTH AND SOUTH AMERICAN CONTINENTS.

It might appear at first sight that the physical features of Northern and Southern America do not materially differ. But without reference to the great difference of their climates, they have dissimilarities which affect animal life whether it be on the land or in the water. The southern continent abounds in lofty mountains and rivers of the greatest magnitude. Its terrestrial formations are eminently volcanic, and in certain parallels of latitude, the ocean is studded with coral islands. The mountains of the north are not remarkable for their elevation, and volcanic rocks are less frequent. Its rivers are chiefly of the third and fifth classes, while its bays and lakes are the largest in the world. The positions of the land and water influence climates far more than is generally understood; and the geological formations of every country, not only effect its mining and agricultural industry, but also the vegetable and animal creations both of the sea and of the land, and even the physiology of man himself.

The Gulf Stream, passing along our coast, greatly ameliorates the climates from Cape Hatteras to Greenland. The temperature of this mighty oceanic current, as it passes through the Bahama Strait, is 68° Fah. When it reaches the Grand Bank of Newfoundland its temperature is 46° on an average, and 6° higher than the surrounding ocean. I found its temperature to shade off as the shores of Newfound-

land were approached. The condensation of the warm and humid atmosphere that is spread over that Atlantic current is the cause of those dense and dreary fogs which in the early part of summer hover over all the shores from the State of Maine to the remotest parts of Labrador and southern parts of Greenland.

I have no doubt whatever that George's Bank, Isle of Sable, the Bank of Newfoundland, and other shoals of less magnitude, are all the gifts of the Mexican current. I have taken broken shells from the deep sea lead, such as the *cyprea*, and others, whose genera cannot be found upon the shores of Northern America; and floating fields of sea weed and drift equally attest the transporting power of that mighty stream.

DESCRIPTION OF NORTH AMERICAN FISHERIES.

The North American fisheries commence at about 40° North latitude, or in the latitude of New York, and extend thence in a northerly direction to the Polar Sea. It is probable that the extreme north is open water, whose frigid-ity is modified by the positions of the adjacent continents. The appearance of droves of whales coming down from the polar regions at certain periods favors this opinion. Some fishes may be said to be common to the north and south, or inhabitants of the temperate regions. The shad, tautog, or black fish, and many others, will fall under this class.

It will be recollected that the interior lands of the northern continent, during the winter, are covered with snow, and the rivers are coated with crystal mantels of ice. The melting of this snow and ice produces great changes in the heat of the atmosphere, and also lowers the temperature of that part of the ocean that washes the coasts. The spring season sends down vast quantities of fresh water, and carries forward a great amount of partially decomposed vegetable and animal matter which supplies food for fishes. This I believe to be one cause by which the inhabitants of the sea are led instinctively into the shallow bays and rivers at the close of spring and the beginning of summer.

From George's Bank to Newfoundland, fish are most abundant in the spring, when they always approach the shores and run into shallow water. This fact, however, may arise in part from the necessity which is supposed to exist in reference to depositing their *ova*. As soon as summer appears, codfish, halibut and the early immigrant herring withdraw from the vicinity of the land to deep water, and dogfish, haddock, pollock and others supply their places. I found this exchange in the Bay of Fundy and some of the estuaries of New Brunswick took place in the course of a single week, and it is gradually extended from latitude 40° to Newfoundland. Farther north, and in districts of almost perpetual ice, it was not observed.

Great numbers of shad are secured yearly in some of the rivers of the American coasts. This is one of the fishes that occupies a medium position between the North and the South. He appears in Charleston, and still farther South, in January, at Norfolk in February, in the Hudson at New York in March, in Massachusetts in April and May, at the entrance of the Bay of Fundy in June, and at the extremity of that Bay in July. He always frequents muddy rivers, where the temperature of the water is from 50° to 60°. He feeds upon schrimp and worms, and sometimes upon a soft mossy sea weed. The shad of the Hudson are superior to those of more Southern rivers. The finest I have ever seen were those of St. Mary's Bay in Nova Scotia. New York receives its full share of this delicious fish, and, like the strawberries and other fruits in whatever State they are gathered, they come to our markets. I do not undertake to say that northern fishes may not be found beyond the limits I have stated. Their kinds shade off both North and South; but wherever they are caught out of their true latitudes, they are generally more or less lean.

In my descriptions, I will call the several kinds of fish, to be noticed, by their common and not by their scientific names. For commercial purposes the latter are more convenient.

Starting then from New York, in a northerly direction, we pass the Mediterranean or Sound and the outer shore of Long Island, and farther on, the entire seaboard of New England. Great quantities of fish are annually taken on these shores and in the adjacent waters—Cod, halibut, pollock, haddock, shad, mackerel, etc. These afford a vast amount of food to the inhabitants and luxuries for the table of the citizen. Great numbers of menhaden are caught by the people of Long Island. Thousands of cart-loads are used for manure. Again, the fish are boiled by steam—the oil extracted, and the residuum converted into what is called artificial guano.

The numbers and value of the fish taken on the shores, and in the bays and rivers, can never be accurately ascertained—as they are taken by thousands of individuals, and devoted to home consumption.

The fisheries of the New England States have ever been considered of great value. The war of the Revolution checked their progress; but from 1786 to 1790 Massachusetts alone sent annually to the deep sea fisheries no less than 500 vessels and 3,000 seamen. These numbers continued to increase until the embargo of 1808 and the war of 1812. The latter almost destroyed the offshore fishing, and the bays and rivers were resorted to. The bounties paid by the United States on fish and fishing vessels have proved to be a wholesome stimulus to this branch of industry.

The State of Maine has some excellent in-shore fisheries. Passamaquoddy, the eastern boundary of the State, exports cod, pollock, haddock and herrings, and mackerel are taken in their season. Between Campo Bello and Eastport, where the bay does not exceed three miles in breadth, at certain times of tide, the boats of the Americans and provincials mingle together in one common fleet. So plentiful are the cod and pollock that before the bait reaches the bottom it is seized, and every boatman draws away with all his might until his boat is loaded, or the fish on the turn of the tide depart. An excellent herring is caught in

Passamaquoddy Bay. They are generally taken in weirs, and smoked for New York and other markets. Maine also sends a number of vessels to George's Bank, Newfoundland and coast of Labrador.

GRAND MANAN.

The Island of Grand Manan is about 20 miles long and 8 miles wide. It is situated about 25 miles from Eastport. Its northern side is an elevated and almost perpendicular mass of trap rock, containing zeolites. Southward, the land slopes down to the sea. At its southwestern extremity the trap rocks extend out beneath the water, and a lighthouse and fog-bell give warning to approaching vessels. Over the submarine ledges, the tide runs rapidly and breaks into wreaths of foam. This is a favorite spot for pollock, of which great numbers are taken with the hook and line. There are several large fishing establishments on the island, and the harbors at its eastern extremity afford shelter for boats and small craft.

On the western extremity of Grand Manan, sea-gulls congregate in vast numbers. The trees of a large tract of forest are occupied by their nests. Clouds of those birds hover over the wood, and the cries of their young in the month of July, and other peculiarities, drew forth an admirable description from the pen of the celebrated Audibon, during one of his northern tours. Grand Manan, as well as the Island of Campo Bello, has been the resort of money diggers. Deep pits have been dug at many places to find the buried treasures of the notorious Captain Kid.

GEORGE'S SHOAL OR GEORGE'S BANK.

The most valuable deep sea fishery on this part of the American coast is the shoal called George's Bank. Its length may be estimated at 100 miles, and its breadth 40 miles, with a depth of water varying from 10 to 60 fathoms. Its summit is dry at high spring tides. The entire bank abounds in fine cod, haddock, halibut, pollock, and their attendants. At certain seasons shoals of mackerel and herring appear at the surface of the water. The deep sea fish may be taken at all times of the year.

The fishes I have named are taken in great numbers to supply the fish markets of New York and Boston. Numbers of small shallops and schooners frequent the Banks, and are seen tossing about in very tempestuous weather. The holds of these vessels are divided into compartments, and into them the sea is allowed to flow freely. Into these watery cells the fish are thrown the instant they are disengaged from the hooks. As soon as a cargo is obtained the vessel runs for New York, or some other port, where the fish are disposed of, and may be often seen alive in our markets. Such as are intended for more southern ports are packed in ice.

FISHERIES OF THE BAY OF FUNDY.

Of the fisheries of the Bay of Fundy my limits compel me to speak generally. There are but few miles of its shores that I have not visited, and therefore I will only notice some of their peculiarities. The elevation and the rapidity of the tides in this bay are well known. In a calm day a vessel will here drift 60 miles in one direction on the ebb tide, and be carried back the same 60 miles on the flood tide. In every part of this capacious bay the fishes, I have already noticed, are abundant in their seasons, and salmon frequent nearly all the rivers. St. John, the principal seaport of New Brunswick, exported, in 1850, 40,000 salmon, 14,000 barrels of alewives, and 1,000 barrels of shad. The total exports of fish for that year, the produce of the Bay of Fundy fisheries, is stated to have been to the value of \$250,000. This sum is less than the value of the fish consumed by the inhabitants.

At the eastern extremity of Minas Basin, and the mouth of the Shubenacadie river, the tide rises no less than 75 feet. At low water the sea is withdrawn more than 20 miles from the point of its highest elevation, and by its rapid rise on the flood tide it forms a mighty tidal wave from 4 to 6 feet high. This wave, or *bore*, as it is called, makes forward over the mud flats with the noise of distant thunder, tearing up the sand banks formed by the previous ebb, and overwhelming every boat or ves-

sel that may lie exposed to its fury. The very front of this wave is occupied by the shad which are rapidly carried onwards to the rivers. In the Peticodiac River boats sometimes fish within 10 feet of the margin of the watery precipice, which at the top seems to have a backward current that prevents the boats from plunging headlong over its border. I have traveled 25 miles an hour in Indian canoes, on the top of the bore in the Shubenacadie River, and within 200 yards of its rolling front which instantly covers the mud flats and shingle beaches, with a smooth but rapid current of water.

On the north side of Minas Basin, and at a place called Five Islands, in the county of Colchester, there is a natural fish pond. A basin of more than 100 square yards has been formed in the hard rock. At high spring tides the borders of this basin are left dry, while its centre has 4 or 5 feet of salt water. In the month of June the codfish pursue the herring close in shore, and drop into this saucer-shaped cavity. The tide withdraws and the fish are imprisoned. On one occasion I accompanied some farmers to the place. They drove down their ox carts, and, with pitchforks, transferred upwards of 400 fine codfish from the sea to the land, where they were divided by casting lots.

Small whale, known as *grampus*, are quite numerous in the Bay of Fundy. Of these none are captured, as they are said to be too shy to be approached by a whale boat; but I have seen them floating and basking in the sun, apparently asleep, and during periods of several hours.

Porpoises are also plenty. A few of these are shot by the native Micmac Indians, who value them for their oil. Whaling might, perhaps, be successfully pursued in these waters by fitting out vessels for the double purpose of whaling and codfishing.

The principal fisheries of the western part of Nova Scotia are at Digby and Yarmouth. At the former place not less than 50,000 boxes of herrings are taken in weirs annually. The fish are small in size, and when smoked and

packed afford an article of export much sought for every where.

The fisheries of Yarmouth and adjacent bays are also valuable. A few years ago a vast shoal of mackerel appeared in these waters; but they were considered too small in size to be cured and shipped. The next year the fish appeared again with increased dimensions. The fishermen concluded that they would wait and make preparations for the third year. The third season brought back to them immense numbers of the fish; but, to their astonishment, they were of a smaller size than ever. This is evidence that the mackerel does not visit the same shore every year.

Following along the shores and bays of the southern side of Nova Scotia, great numbers of the finny tribes are captured; and a number of small vessels resort to the banks and to Labrador from that quarter. In general, the in-shore fisheries are much neglected. The rivers abound in alewives in the month of June, and there is fine salmon fishing in Gold River and a few other rapid streams.

Halifax, the principal capital of the province of Nova Scotia, exports to Europe and the United States great quantities of dry and pickled fish, and also salmon laid down in ice. That city is said to have the finest fish market in the world. I have seen fine codfish and halibut sold at the wharves for two pence per pound. During the autumnal months fine fat mackerel in great numbers appear in the harbor and its spacious basin. At Herring Cove the fishery is pursued with profit, and vessels make regular trips to the Gulf of St. Lawrence and coast of Labrador.

The coast from Halifax to the Gut of Canseau is but thinly populated, and the industry of the inhabitants is divided between agricultural and maritime pursuits. The Strait of Canseau is about eighteen miles in length, and at its narrowest part only three quarters of a mile in breadth. This opening from the Gulf into the Atlantic has long been celebrated for its fisheries, and still continues to yield a rich harvest to the industrious fisherman. A few

years ago a shoal of mackerel threw themselves into a small cove upon the shore, near Guysborough, at the head of Chedabucto Bay. The inhabitants turned out and made an attack upon them, and in the space of twenty hours secured four thousand barrels.

The entire shores of the Gulf of St. Lawrence, Prince Edward's Island, and the Island of Cape Breton abound in the kinds of fish I have already noticed. At Arichat, Inganish, Choticamp and other places there are extensive fishing establishments, where it is not uncommon to see ten acres of ground occupied with fish flakes covered with cod during the period of drying. Cape Breton is nearly divided by a little Mediterranean called Bras d'Or. Both cod and herring are taken here in the winter by cutting holes through the ice and lowering down the hook or the net.

The shores of Prince Edward's Island are scarcely less productive than those just mentioned. The island is very fertile, and therefore its inhabitants are chiefly devoted to agriculture. Fine salmon are caught in some of the inlets, and in the summer season trout are plenty several miles from the land and in the open sea.

The coasts of Bay St. Lawrence and Gaspé are perhaps still more valuable for their fishing resources, and they have a number of mercantile houses devoted altogether to the capture, curing and transportation of fish to the Old Country. Salmon still continues to be numerous in many of the rivers, as well as in those of Lower Canada. The streams that fall into the sea on the coast of Labrador abound in this delicious fish. In July and August they take a gaudy fly with great avidity, and angling for them becomes a laborious pleasure. Strong tackle is always necessary. Still farther north salmon are more plenty, and form no inconsiderable part of diet of the Esquimaux Indian.

The Isle of Sable is a well known, and very dangerous shoal about one hundred and sixty miles south of Cape Breton, and in the track of vessels bound from this county to Europe. Its summit on an average is not more than ten

feet above the level of the ocean. It bears a few low bushes, among which wild horses, known as Isle of Sable ponies, roam at large. These horses were originally carried to the island to supply food for shipwrecked seamen and the lighthouse keepers, who sometimes, for long periods, are cut off from the rest of the world. From the conflicting currents of the Gulf of St. Lawrence and the Gulf Stream the shoals about the island are constantly shifting. Fish are abundant on these banks. Still they are not much frequented by fishermen from the danger apprehended of running their vessels aground.

The Island of Newfoundland is nearly four hundred miles in length, and from fifty to two hundred miles in breadth. The Grand Banks of Newfoundland may be estimated to be 700 miles long, and 200 miles broad. The soundings vary from ten to one hundred fathoms. The bottom is not rock as some have supposed; but chiefly sand, sand and shells, and mud. The sailor knows at once when he is over them from the altered appearance of the water. These vast shoals afford the greatest fisheries in the world, and they are frequented three quarters of the year by ships from every part of Europe, and the northern ports of America. Not less than 2,000 ships anchor and fish upon these banks every season, exclusive of smaller vessels from the British provinces and the United States.

St. Pierre's and Miquelon afford the French great facilities for pursuing their ancient occupation at Newfoundland. Those two little islands supply bait and surface for drying cod. From May to November, in crossing the Banks, numbers of foreign vessels may be seen at anchor out in the open sea. They usually send down their upper masts and yards, and haul every rope tight. Here they roll from side to side from month to month, ever baiting and hauling in cod and other deep sea fishes. Few merchant vessels pass the Banks without "*heaving-to* for fish."

Within a few past years, the French, and subsequently others, have introduced a new

mode of fishing. From the stern of the ship they carry out a long line called a bullock. Upon this line, or lawser, a great number of short snoods or cords are fastened, each carrying a baited hook. The bullock having been duly baited, is lowered away and stretched along the bottom of the sea. Several of these destructive lines are sent out from one ship, and hauled in every twenty-four hours, sometimes by hand, and occasionally by a capstan. Frequently a thousand fish are taken at a single haul. It is surprising to see the numbers of uncaptured fish that will rise to the surface of the water at the hauling in of the bullocks. Similar fisheries to those I have described extend from Newfoundland along the coast of Labrador to Hudson's Bay, Davis's Strait and Greenland. At those places the fishing season is comparatively short from the early and intense cold. They are now a kind of storehouse for future generations. Vessels laden with frozen herrings arrive at Halifax from Labrador during the winter, and codfish perfectly brittle from the frost supply the market at St. John, New Brunswick, in the months of January and February.

There are no less than three varieties of whales in the the Gulf of St. Lawrence. The first is the large Greenland whale of a color almost black, and sometimes eighty feet in length. The second is smaller in size, and generally known as the "hump-back." Lastly, the narwhal is from eighteen to thirty feet in length, and so black that it is commonly called the black fish. It is armed with a long ivory tusk on the left side of the mouth; but appears quite harmless. I found a narwhal stranded in a remote creek on the Island of Cape Breton. It was eighteen and a half feet in length, and would probably weigh six tons.

The whale fishery of the Gulf and the coast of Labrador was first undertaken by the people of Nantucket. At present it is pursued to a small extent by vessels from Newfoundland and Gaspé; but might, under proper management, be made very profitable to vessels from the United States.

Next in importance to the cod and herring fisheries of these northern latitudes are the seal fisheries. In the latter part of March and about the first of April vessels are fitted out at Newfoundland, and on some of the shores of Nova Scotia and New Brunswick, and are "off for the ice." They are from 40 to 80 tons burthen, with crews of 15 or 20 men each. They seek some opening in the ice floes, running into them until they are completely ice bound. With saws and other appliances the crews cut away the ice, and penetrate as far as possible into its solid masses. Here for a short time they remain at rest, waiting the opening of a "seal meadow." Often, after a long and dreary night, the morning discovers to them thousands of young seals, not larger than kittens, scattered over the ice in all directions. The sealing crew will wait sometimes a fortnight, or three weeks, for the young seals to grow, or until they are as large as ordinary sized dogs. They then embark upon the ice with small boats, or punts, and with clubs and muskets commence the work of death, and stripping the pelts with the fat from the young seals, they transport them to their vessel to be afterwards drained for the oil. An old sealer does not believe that these young seals are ever visited by their dams; but says, uniformly, that they feed upon ice alone. Indeed, it is remarkable how few old seals are seen among the ice where the young ones are so numerous. Among the few and scattered seniors of the oily race I have seen the hooded seal, which has a kind of moveable cap on his head, capable of being drawn down over the eye. The countenances of this variety of the *phoca* tribe are most singularly grave and amusing. Nothing can exceed the forlorn and dreary condition of a sealer in the ice during a storm, and in the night, when ever and anon his vessel is in danger of being crushed between the ice floes, from which there is no escape. Still thousands of fishermen venture on these perilous voyages. Seals are also taken in strong nets in some of the small inlets of Labrador.

While speaking of seals, I may mention the

walrus, an animal of great dimensions. They are usually shy. Nevertheless, I have known an instance of a boy approaching one very closely almost every day. At a place called Cascumpee, near the northern extremity of Prince Edward's Island, a few years ago, a drove of walrus were driven ashore by the pressure of the ice. They attempted to cross a narrow neck of land, when, being discovered, they were attacked by the few inhabitants in that quarter, and a number of them were killed. I was at the place since, and the number of walrus bones on the ground attest the truth of the story.

A single sealing vessel will frequently capture 5,000 seals in a month, which is considered and called a good fare. The numbers taken by vessels fitted out at Newfoundland amount to 500,000 annually.

The value of the fisheries, to which I have adverted, to this country can scarcely be overestimated. France has long viewed the fisheries of Newfoundland as the nursery of her navy, and she has 16,000 men engaged in this employment. Newfoundland sends 10,000 men annually to the seal fishery, and Great Britain has not less than 50,000 sailors upon the shores I have described, engaged in the fisheries. It is to this employment also that the United States would look in the painful event of war, for seamen to man her fleets. At the present time the fishermen of the United States maintain a decided advantage over the fisherman of the provinces in the bounties he receives upon the produce of his industry. The American is, I believe, the best fisherman in the world. The occupation is natural to him, and affords scope for his industry and ingenuity.

In conclusion, there is evidently much to be done in aid of this class of people. The fisherman should be provided with the best charts, and all those philosophical instruments that give indications of the winds and weather. He might also receive much advantage from a better knowledge of the Natural History of fishes. Added to these lighthouses and fog-bells upon dangerous shoals, and upon remote capes and headlands, would guide him in the perils of the storm.

JOURNEY FROM NAGASAKI TO JEDDO.

The following which appeared in the *Java Courant*, of the 5th December, 1858, describes the official journey of the Dutch Commissioner in Japan, from Nagasaki to the capital, and presents so terse and clever a portraiture of social life in this little-known nation that we have considered it worthy of preservation in the JOURNAL. Our readers will find in it much that is valuable in geography, natural history, industrial economy, and ethnics; and, moreover, it is a pleasantly written and interesting article, which will attract more than usual attention:

From Nagasaki the route lay across Kiu-Siu to Kokura, from thence across the Strait Van de Capallen to Semenoseki, afterwards in a Japanese junk through the inland sea to Hiogo, and from thence again by land to Osaka, and by Kiota (Miaca) to Jeddo.

The whole journey was a state procession. In each town or village the Commissioner on his arrival was met by the local authorities, who saluted him by bowing to the ground. Persons belonging to the cortege of the Commissioners—which was joined by each landholder on entering his ground—preceded the train and ordered the people to kneel, which was generally done, even by persons at a considerable distance from the road employed in the fields. These marks of honor were repeated along the whole route.

In most places the roads were cleared and swept. Two persons with brooms went before the train. In the villages every one had a broom placed before the door of his house; before some houses also lay two small heaps of sand or earth and a bucket of water, with which the road was sanded, graveled and sprinkled in honor of the Commissioner. In the evening each house was lighted up by a paper lantern. Similar marks of honor, but on a larger scale, were shown to the Commissioner whenever he passed public buildings; in front of these stood ten buckets of water in a pyramidal heap. In a number of places the fire engines were rigged out and decorated in the Japanese fashion. In front of the castles of the noblemen, Japanese officers were drawn up at the grand entrance, some with their state banners and some on horses.

In all the villages and towns, the middle of the streets through which the commander passed was kept clear, and the principal inhabitants were drawn up in rows in front of the houses; the greatest silence was observed.